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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/660,565 | 09/12/2003 | Howard Rhodes | M4065.0570/P570-A | 5308 |

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| EXAMINER | |
|---|---|
| VU, QUANG D | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2811 | |

DATE MAILED: 04/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| Advisory Action Before the Filing of an Appeal Brief | Application No. 10/660,565 | Applicant(s) RHODES ET AL. | |
|---|---|---|---|
| | Examiner Quang D. Vu | Art Unit 2811 | |

*--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

THE REPLY FILED 29 March 2005 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:
   a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.
   b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

   Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
   (a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);
   (b) ☐ They raise the issue of new matter (see NOTE below);
   (c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
   (d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

   NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).
4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): _____.
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☒ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
   The status of the claim(s) is (or will be) as follows:
   Claim(s) allowed: _____.
   Claim(s) objected to: _____.
   Claim(s) rejected: *90 and 93-141*.
   Claim(s) withdrawn from consideration: _____.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: See Continuation Sheet.
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08 or PTO-1449) Paper No(s). _____
13. ☐ Other: _____.

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Continuation of 11. does NOT place the application in condition for allowance because: It is argued, in page 3 of the remarks, that Rhodes does not teach or suggest forming a floating diffusion region for receiving charge from the charge collection region; and forming a charge storage capacitor over the semiconductor substrate so that one electrode of the storage capacitor is connected to the floating diffusion region by an electrical contact. This argument is not convincing because Rhodes (figures 1-14) teaches forming a floating diffusion region (130) for receiving charge from the charge collection region (155) (Rhodes teaches doped region [126], which is connected photogate transistor [125] to the transfer transistor gate [128]; [155] is a part of the transistor [125] and [130] is a part of the transistor [128]. So, [155] is connected to the [130]. Therefore, a floating diffusion region [130] receives charge from the charge collection region [155]); and forming a charge storage capacitor (162) over the semiconductor substrate (116, 120) so that one electrode (156) of the storage capacitor (162) is connected to the floating diffusion region (130) by an electrical contact (150).

It is argued, in page 3 of the remarks, that Rhodes and Doyle et al. do not teach or suggest the trench and planar capacitor structures that are all formed overlying the active area of the pixel sensor cell, and not such that the entire extent of the charge storage capacitor overlies the field oxide region. This argument is not convincing because the applicant fails to define the trench and planar capacitor structures that are all formed overlying the active area of the pixel sensor cell in the claimed limitations of claim 130. However, the combined device (Rhodes and Doyle et al.) includes forming a charge storage capacitor (Doyle et al.; C2) such that the entire extent of the charge storage capacitor (Doyle et al.; C2) overlies the field oxide region (Doyle et al.; 40) for the reason that is discussed in the final office.

It is argued, in page 4 of the remarks, that Rhodes does not teach or suggest connecting an electrode of a storage capacitor to a floating diffusion region by a first electrical contact. This argument is not convincing because the applicant fails to define connecting an electrode of a storage capacitor to a floating diffusion region by a first electrical contact in the claimed limiations of claim 137. However, Rhodes (figures 1-14) includes connecting an electrode of a first charge storage capacitor (capacitors [64, 74]; figure 1) to the floating diffusion region (130) by a first electrical contact (42) (floating diffusion region [130] connects to a readout circuit [60]; column 7, lines 42-54).

It is argued, in page 6 of the remarks, that Rhodes and Doyle et al. do not teach or suggest forming a charge storage capacitor such that the entire extent of the charge storage capacitor overlies the field oxide region and forming a contact between the first doped region and the charge storage capacitor. This argument is not convincing because the combined device (Rhodes and Doyle et al.) includes forming a contact (Rhodes; 150) between the first doped region (Rhodes; 155) and the charge storage capacitor (Rhodes; 162) and forming a charge storage capacitor (Doyle et al.; C2)such that the entire extent of the charge storage capacitor (Doyle et al.; C2) overlies the field oxide region (Doyle et al.; 40) for the reason that is discussed in the final office.